

ON THE SYNTOMID MOTHS OF SOUTHERN VENEZUELA
COLLECTED IN 1898-1900.

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Having recently studied the Syntomidae remaining in my collections brought from Venezuela, as well as some received later, and finding a comparatively large percentage new to science, it was deemed advisable to undertake a thorough study of the species.

As the U. S. National Museum acquired a complete representation of the moths taken by me in Venezuela after the first year's collecting,^a arrangements were made with its officials whereby I have been enabled to undertake the study of almost all the accessible species of Syntomidae^b taken by me during my entire trip in Venezuela. The present paper is therefore based primarily upon specimens in the U. S. National Museum and, solely, upon species collected by the author. The arrangement followed is in accordance with that in Hampson's admirable work on the family,^c with such minor changes as are warranted by the present study and the writer's knowledge of their habits.

PSEUDOSPHEX AURIFERA, new species.

Female.—Head, and thorax beneath, dark brown; antennæ fulvous with dilated portion purple; two outer joints of palpi, the frons, and head behind eyes with some grey hair; neck, tegulæ, and thorax above, clothed with golden hair; legs fulvous, the front pair dark; abdomen

^a The Tring Museum received the specimens taken during the first year in the field.

^b Some of the species taken the first year were not found in duplicate, and such of them as were not taken later are necessarily omitted. Of the species taken after the first year two are not included because it was impossible to study the venation without some injury to the specimens, which, being uniques, it would be inadvisable to mar. At least two other species were not found in time to be studied.

^c Catalogue of the Syntomidae in the Collection of the British Museum, by Sir George F. Hampson, Bart

fulvous-brown; the sides and ventral surface of second segment and lateral patches and ventral fringe on third segment silvery; wings yellow-hyaline, the veins and cilia brown. Fore wing with the area in front of the median nervure and vein 5 brown, the cell with the scales less dense toward base; the inner area with brown fascia expanded to vein 1 except on outer third. Hind wing with fulvous costal fascia, and the front of cell rather thinly clothed with brownish scales.

Expanse.—28–30 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8403, U.S.N.M., and in collection of the author.

This species, as well as the next, belongs to the same generic section as *P. polistes* Hübner.

PSEUDOSPHEX CAURENSIS, new species.

Male.—Head fulvous-yellow; antennae, tegulae, thorax, and legs fulvous; lower part of frons and line behind eyes white; vertex with black patch; mesothorax clothed rather thinly between dorsal line and patagia; fore coxae, and streaks on fore and middle femora silvery; abdomen with the first three segments and ventral valve fulvous, the fourth segment with the ventral surface light fulvous, the upper surface and following segments black; the first segment with subdorsal black lines, the second and third dorsal segments narrowly edged, and the fourth dorsal segment irrorated and broadly edged with fulvous-yellow; the ventral valve and the third ventral segment fringed with white; wings fulvous-hyaline, the veins fulvous. Fore wing with costal and inner fascia fulvous and the outer end of cell and area forward of vein 5 somewhat irrorated. Hind wing with fulvous costal fascia.

Expanse.—30–32 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8404, U.S.N.M., and in collection of the author.

PSEUDOSPHEX POLISTES, Hübner.

Habitat.—Suapure, Venezuela.

SPHECOSOMA GRACILIS, new species.

Male.—Head, thorax, and legs orange; palpi in front with some whitish scales; antennae with the shaft reddish and the branches dark; spot on vertex, band on back of head, patches on tegulae, stripes on patagia, and large patches on meso- and meta-thorax black; pectus with white spots; fore coxae whitish at base; abdomen fulvous above and lighter below, the segments fringed with fulvous-yellow; the front of first segment with a black bar expanded at middle into a short dorsal stripe not reaching second segment; the tubercles with a few

silver-green scales; wings yellow-hyaline, the veins, and margins very narrowly, brown. Fore wing with fulvous inner fascia.

Female.—Other than in the antennae, there are no definite secondary characters.

Expanse.—26–30 mm.

Habitat.—Suapure, and the upper Caura, Venezuela.

Types.—Cat. No. 8405, U.S.N.M., and in collection of the author.

Allied to *S. angustatum* Möschler.

POMPILODES ALIENA Walker.

Habitat.—Suapure, Venezuela.

ISANTHRENE CRABRONIFORMIS Staudinger.

This differs a little from the typical form, of which it seems to be a variation due to locality.

Habitat.—Suapure, Venezuela.

HYDA BASILUTEA Walker.

Habitat.—Ciudad Bolivar and Suapure, Venezuela.

PHÆNICOPROCTA VACILLANS Walker.

Habitat.—Suapure, Venezuela.

PHEIA LATERALIS, new species.

Female.—Head, body, and legs brown-black; frons with lateral white spots; antennae with minute streaks at base, and stripes near tips white; patches on tegulae, shoulders, meso and metathorax, and stripes on patagia crimson; coxae with white spots; abdomen with two dorsal white stripes on first segment, followed by two dorsal series of golden green spots, smallest at beginning, and subdorsal broad crimson stripes which beyond the sixth segment are abruptly narrowed (forming lateral stripes) and of a lighter or orange hue; the first three segments with ventral broad white stripe; wings hyaline, the veins and margins brown-black. Fore wing with a small basal patch below cell expanding into a short streak along front of vein 1, a long subcostal streak, and a short streak on inner fascia crimson; a brown-black discoidal spot conjoined to the costal fascia, the terminal band wide on apical area and below vein 2. Hind wing with the terminal band wide on apical area and expanded at tornus.

Expanse.—30 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8406, U.S.N.M., and in collection of the author.

Allied to *P. daphæna* Hampson and *P. utica* Druce.

PHEIA UTICA Druce.

Habitat.—Ciudad Bolivar and Suapure, Venezuela.

PHEIA ALBISIGNA Walker.

Habitat.—Suapure, Venezuela.

MIMAGYRTA PULCHELLA, new species.

Female.—Head, thorax, and abdomen above, brown-black; pectus, legs, and abdomen beneath, white; streaks on front of palpi, the frons, streaks behind eyes, spots below tegulae, subdorsal spots on mesothorax, and subdorsal patches of hair on meso and metathorax white; tegulae dorsally tipped with white and with some metallic blue scales; patagia with small patch of whitish scales; legs streaked with brown; abdomen with subdorsal lines and interrupted lateral streaks whitish; the anal tufts and sublateral stripes on terminal segments brown-black; wings brown-black. Fore wing with white point at base of costal nervure, a broad yellow streak below base of cell, an oblique yellow patch in end of cell and extending to vein 1, an oblique hyaline band beyond the cell between veins 3 and 7, and some brilliant blue scales at base of inner margin; the underside as above, but without the brilliant blue and with whitish streaks on base. Hind wing with yellow fascia from base below the cell and vein 2 extending above vein 4 and between 3 and 4 to near termen; a few brilliant blue scales along vein 1, the cilia on inner margin white; underneath as above, but with whitish streak on base of costal area, a yellowish splash below the yellow fascia, and without any brilliant blue scales.

Expanse.—32 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8407, U.S.N.M., and in collection of the author.

This species bears a striking resemblance to *Chrostosoma tricolor* Felder and, as the venation is but slightly different, it seems that the two genera should be placed closer together than has been done.

LOXOPHLEBIA TRIANGULIFERA Felder.

Habitat.—Suapure, Venezuela.

COSMOSOMA HAMPSONI, new species.

Male.—Head and body above, dark orange; below, orange-yellow; palpi orange-yellow or orange; frons paler below; antennae black with the inner part of basal joint orange; paired spots on vertex, meso and metathorax, and spots on tegulae black with metallic blue patches; patagia with black border, the inner margin usually with slight metallic blue streak, the shoulders with metallic blue spots, pectus

with metallic blue patches; fore coxæ whitish; tibiae with basal black stripes usually streaked with metallic blue, the stripes on fore and middle tibiae short; abdomen with ventral valve; the front of first four dorsal segments narrowly whitish; the hind part of dorsal segments with subdorsal black patches (small or absent beyond sixth segment) usually (in types the first six pairs) enclosing metallic blue spots; usually the first five or six (in types five) pairs of patches connected dorsally, and the first three to five pairs rather extended laterally; underneath with silvery band (often hidden by ventral valve) on front of fourth segment, and the medial segments with or without lateral black spots, often enclosing metallic blue patches; wings yellow hyaline, the veins and margins narrowly brown-black. Fore wing with metallic blue points at base, the terminal band wide on apical area, the inner fascia black. Hind wing with the terminal band wide at vein 1, the inner fascia orange.

Female.—The whitish fascia on fore coxæ and the silvery band on underside of fourth segment are absent; fore wing with basal orange streak on inner fascia. The ventral valve is of course absent.

Expanse.—Males 34–42 mm.; females 34–48 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8408, U.S.N.M., and in collection of the author.

Remarkable for the great variation in size. In rare instances the metallic markings are blue-green.

Allied to *C. nigricornis* Fabricius.

Named after Sir George F. Hampson in recognition of his lepidopterological writings, which, although of wonderful magnitude, are unexcelled in system and accuracy.

COSMOSOMA GEMMATUM Butler.

The form taken has the legs brown-black, and the abdomen with sublateral series of metallic blue spots (as in *C. xanthocera* Hampson). The male has the fore coxæ and streaks on legs brownish yellow, and the abdomen beneath without yellow spots on third segment. This form is evidently due to the locality.

Habitat.—Suapure, Venezuela.

COSMOSOMA GEMMATUM Butler var. XANTHOCERA Hampson.

In the form taken the antennæ are black, with the branches orange, and the shaft very rarely streaked. The abdomen frequently with orange spot or band on front of sixth segment, and the band on fifth segment not reduced in the male.

While the ground color of the head and body in this form is orange and in *gemmatum* black, the two forms are identical in habits, were observed to commingle sexually, and are undoubtedly varieties of

each other. They should be listed as given above, though the discovery of the new form of *xanthocera* makes the latter name no longer appropriate.

Habitat.—Suapure, Venezuela.

COSMOSOMA TEUTHRAS Walker.

In one specimen the discocellular spot was entirely absent, whereas in all other individuals it was quite prominent.

Habitat.—Ciudad Bolivar, Venezuela.

COSMOSOMA ACHEMON Fabricius.

In this species the male has the terminal band of forewing expanded between veins 2 and 3 to cell and along it to vein 4, the expanded portion being entirely black or with more or less broad orange-red streaks between the veins, the latter form agreeing with the description of the type.

Habitat.—Ciudad Bolivar, Venezuela.

COSMOSOMA ACHEMON Fabricius.

Variety.—In this rare form the usual red of the underside of the body is superseded by black, thus conforming to the coloration of the male.

Expanse.—28 mm.

Habitat.—Ciudad Bolivar, Venezuela.

COSMOSOMA ACHEMON Fabricius var. BOLIVARENSIS, new variety.

Male.—Head and body black; antennæ with some white on tips; patch on frons, spot between and spots behind antennæ, spots on tegulae and thorax, patches on pectus, fore coxae below, and slight basal streaks on tibiae metallic blue; patagia with or without red stripe (in types without stripe in males, with stripe in females); abdomen with subdorsal series of metallic blue spots; the ventral surface with sublateral series of metallic blue spots which are very large on basal segment, and usually obsolete beyond (as in types); wings hyaline, the veins and margins black. Fore wing with metallic blue point at base of subcostal nervure, a black basal patch, a narrow black discoidal lunule; the terminal band very wide on apical area and expanded between veins 2 and 3 to cell and along it to vein 4. Hind wing with the terminal band wide at apex and expanded at tornus.

Female.—With the terminal band of fore wing not expanded between veins 2 and 4.

Expanse.—26–30 mm.

Habitat.—Ciudad Bolivar and Suapure, Venezuela, though only one specimen was met with at the latter place.

Types.—Cat. No. 8409, U.S.N.M., and in collection of the author.

The orange-red of the body and wings in *achemon* is, in this form, almost if not entirely superseded by black. It is closely allied to *C. remotum* Walker, and it is very likely that the latter and, perhaps, one or two more of the related "species," may yet be added to the list of varieties. The three forms herein listed were found together and are exactly alike in habits.

MYCETROCNEME VARIPES Walker.

The only specimen taken is a female in which the hyaline area of the fore wing is reduced to a small spot below the cell, and another between veins 3 and 4.

Habitat.—Suapure, Venezuela.

SAURITA CRYPTOLEUCA Walker.

Habitat.—Suapure, Venezuela.

SAURITA CASSANDRA Linnæus.

Habitat.—Ciudad Bolivar and Suapure, Venezuela.

SAURITA VITRISTRIGA Druce.

As the male of this species was evidently unknown when Mr. Hampson monographed the family, the following description is given:

Male.—Abdomen with ventral valve covering the basal segments, the valve black-brown broadly fringed with white; the last four ventral segments yellowish, and the preceding two with sublateral white spots.

In this species the wings show considerable variation; the hyaline area in some individuals being inconspicuous, though it is usually prominent and occasionally occupies about one-fourth of the whole area.

The male having a ventral valve would place this species in the same group as *S. cassandra* Linnaeus.

Habitat.—Suapure, Venezuela.

SAURITA ANTHRACINA, new species.

Female.—Body black; frons and vertex with bluish metallic spots and some whitish scales; spots on tegulae, shoulders, pectus, mesothorax, and spot on metathorax metallic blue with some whitish scales; legs brown-black; abdomen with dorsal and lateral lines, and sublateral series of spots metallic green merging into blue at base; wings brown-black. Fore wing above slightly suffused with brilliant blue; underneath with short metallic blue streak on base of costal nervure, and a suffused brilliant blue streak on median nervure with branches on

veins 2, 3, and 4. Hind wing beneath with a suffused brilliant blue streak on median nervure.

Expanse.—42 mm.

Habitat.—Suapure, Venezuela.

Type.—Cat. No. 8410, U.S.N.M.

SAURITA VENEZUELENSIS, new species.

Male.—Black; tegulae, patagia, and thorax above orange; the head, body, and base of fore wings with some metallic blue scales. Fore wing with hyaline streaks in interspaces of basal half. Hind wing with the interspaces hyaline.

Female.—The orange on tegulae obsolete in type, the interspaces of both wings hyaline, and the veins and margins black.

Expanse.—22–25 mm.

Habitat.—Cindad Bolivar, Suapure, and the Caura Valley, Venezuela.

Types.—In collection of the author.

This and the next form are closely related to *S. temenus* Stoll, and the present form seems intermediate. Possibly these three may prove to be varieties of one species?

SAURITA VENEZUELENSIS E. A. Klages, var. **OBSCURA**, new variety.

Like the preceding, but without orange markings in males or females.

Habitat.—The same as preceding form.

Types.—Cat. No. 8411, U.S.N.M., and in collection of the author.

SAURITA THORACICA, new species.

Male.—Dark fuscous; frons whitish; thorax and pectus orange-red; fore coxae below with long whitish scales, the fore tibiae with white streaks; wings orange-red at base.

Female.—No markings on fore coxae and legs.

Expanse.—Male, 20 mm.; female, 25 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8412, U.S.N.M.

PSOLOPTERA LEUCOSTICTA Hübner.

Habitat.—Suapure, Venezuela.

HISTIÆA BELLATRIX Walker.

Habitat.—Suapure, Venezuela.

HISTIÆA MONTICOLA, new species.

Female.—Brown-black; frons yellowish below; shoulders with yellowish spots mixed with brown scales; points behind antennae, points on tegulae, dorsal streak on metathorax, and patches on pectus metal-

lic blue; legs brown, the fore coxæ with yellow patches. Abdomen with two dorsal and subdorsal brownish-yellow patches on front of first segment; the front of the second and third dorsal segments with lateral yellowish fasciæ nearly meeting above; the second, third, and fourth segments with ventral broad yellow bands; a dorsal spot on second segment, lateral series of spots beginning on same segment, and incomplete sublateral series of spots metallic blue. Fore wing with metallic-blue spots at base; a subcostal basal streak, a basal streak below cell, a patch in end of cell, and streaks below base of vein 2 crimson, slightly irrorated with brown scales; the discocellulars with metallic-blue streaks; an oblique postmedian series of yellowish spots between veins 3 and 7, the lower two being displaced outwardly; underside marked about as above, but with a metallic-blue streak in median part of cell, the lower discocellular streak expanded, and the crimson markings without brown scales and outlined clearly. Hind wing with basal large crimson patch below the cell, and an oblique postmedian series of crimson spots between veins 2 and 6; underside marked as above.

Expanse.—62–66 mm.

Habitat.—Suapure Mountains, Venezuela.

Types.—Cat. No. 8413, U.S.N.M., and in collection of the author.

MACROCNEME THYRIDIA Hampson.

The coloration in this species is subject to considerable variation, the metallic color varying from bronze-green to topaz and dark cupreous. The fore wing above often with medial metallic streaks which are sometimes expanded and conjoined into a more or less prominent central band.

Habitat.—Ciudad Bolivar and Suapure, Venezuela.

MACROCNEME AFFINIS, new species.

Female.—Black; basal spots on palpi, lateral spots on frons, and antennæ near tips white; tegulæ with white tips and some metallic-blue scales; subdorsal stripes on thorax, and streaks on patagia metallic blue; spots on trochanters, basal spots on fore coxæ, and tips of hind tarsi white; tibiæ and fore coxæ usually with metallic-blue streaks. Abdomen with subdorsal and lateral white spots on first segment, lateral and sublateral spots on second, and ventral points on the other segments; the dorsal surface beyond the subdorsal spots, and the sides of medial ventral segments suffused more or less with dark cupreous green. Fore wing with white point at base of costa; some metallic blue on base and streaks of same in and below end of cell and above inner margin; underneath with a subcostal streak, and large fasciæ in and below cell metallic blue. Hind wing underneath

with large metallic-blue fasciae on front half to beyond end of cell, and sometimes with fascia on inner area.

Expanse.—36 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8414, U.S.N.M., and in collection of the author. This species is allied to *M. thyridia* Hampson.

MACROCNEME CHRYSOTARSIA Hampson.

In one specimen the hind tarsi are entirely black.

Habitat.—Ciudad Bolivar, Venezuela.

MACROCNEME CAURENSIS, new species.

Male.—Black; palpi with the basal joint and front of second joint white, the third joint sometimes streaked; lower part of frons with the sides white and some bluish scales between; vertex with some metallic-blue scales; points fore and aft on basal joint of antennae, streaks behind eyes, and spots on neck white; patches on tegulae, spots on shoulders, subdorsal spots on mesothorax, spot on metathorax, streaks on patagia, fore coxae below, and streaks on tibiae white suffused with metallic blue; spots on trochanters, and tips of hind tarsi white. Abdomen with metallic green dorsal and lateral stripes; the ventral valve metallic green broadly edged with white; the exposed ventral segments with sublateral series of white spots, sometimes connected ventrally. Fore wing with white point at base of subcostal nervure, some metallic green at base, and streaks in and in front of cell; underneath with subcostal streak, and large fasciae in and below cell metallic green. Hind wing underneath with large metallic-green fasciae in and in front of cell. The metallic green on the body and wings is blue in oblique light.

Expanse.—30 mm.

Habitat.—Suapure and Ciudad Bolivar, Venezuela, though only one specimen was met with at the latter place.

Types.—Cat. No. 8415, U.S.N.M., and in collection of the author. Allied to *M. alsea* Druce.

MACROCNEME VITTATA Walker.

Habitat.—Suapure, Venezuela.

CALONOTOS TIBURTUS Cramer?

Habitat.—Suapure, Venezuela.

Most if not all the species in this genus show considerable variation in the markings of the wings, and without the types before me it has been found impracticable to make definite determinations save in one instance. Two or three species of the genus were taken at Ciudad Bolivar.

CALONOTOS sp.

Habitat.—Suapure, Venezuela.

CALONOTOS sp.

Differs chiefly from the former in that the male has the fore coxae clothed with rather long hair.

Habitat.—Suapure, Venezuela.

CALONOTOS PLUMULATUS, new species.

Male.—Brown-black; frons with lateral brown-mixed whitish patches; antennae with some white on tips; points on tegulae, spots on pectus, fore coxae, and trochanters, and the tips of middle and hind femorae white; abdomen above with white subdorsal lines and lateral spots on first segment, followed by dorsal and lateral broad golden green stripes; underneath with sublateral golden green stripes on first seven segments, and a ventral series of white spots. Fore wing with metallic blue-green basal streak below costa, and broad basal streak below median nervure; underneath with a subcostal short metallic blue-green streak at base, another beyond the middle, and a short streak in front part of cell. Hind wing underneath with broad metallic blue-green basal streaks in and in front of cell. Antennae with the branches very long.

Expanse.—50 mm.

Habitat.—Suapure, Venezuela.

Type.—Cat. No. 8416, U.S.N.M.

POLIOPASTEVA VERDIVITTATA, new species.

Female.—Black; frons, streaks below eyes, spots on neck, median spots on patagia, and spots on pectus and trochanters white; spots on tegulae and shoulders, dorsal streak on mesothorax, and patch on metathorax golden green; abdomen with broad golden green dorsal, lateral, and sublateral stripes, the lateral stripes beginning on second segment and in line with white stripes on first segment. Fore wing with white speck at base of costa, a subcostal short hyaline streak near base, and a broad golden green streak below base of cell; underneath with golden green streaks in cell. Hind wing underneath with basal short golden green streak below costa, and broad streak in cell.

Expanse.—44 mm.

Habitat.—Suapure, Venezuela.

Type.—Cat. No. 8417, U.S.N.M.

POLIOPASTEA VERDIVITTATA E. A. Klages, var. **FENESTRATA**,
new variety.

Female.—Like the former, but with these additional characters: Fore wing with a median hyaline spot below the cell, and a postmedian series between veins 3 and 7 with the intervening portions of veins streaked with white. Hind wing with a hyaline spot beyond the cell.

Expanse.—44 mm.

Habitat.—Ciudad Bolivar and Suapure, Venezuela, the latter being the type locality.

Types.—Cat. No. 8418. U.S.N.M., and in collection of the author.

POLIOPASTEA PLUMBEA Hampson.

Habitat.—Suapure, Venezuela.

TRICHURA MONSTRABILIS, new species.

Male.—Head and body black; palpi in front, and streaks on neck white; frons, vertex, cheeks, tegulae, shoulders, patagia, thorax, and legs with patches of metallic blue (sometimes blue-green) scales; coxae with white patches; abdomen suffused with dark bronze-green, the constricted segment white at sides and beneath; wings hyaline, the veins and margins black. Fore wing with the base black with or without metallic blue point; a discoidal black bar conjoined to the costal fascia; the terminal band wider on apical half, underneath with basal white streak on subcostal nervure. Hind wing with apical black patch diminishing to vein 2, and the lobe on inner margin black, underneath with subcostal long white streak. Abdomen with or without (in types with) appendage on terminal segment.

Female.—Palpi, neck, and coxae without white; the white on underside of wings absent or inconspicuous. The abdomen, of course, is without the terminal appendage.

Expanse.—32–38 mm.

Habitat.—Suapure and the upper Caura, Venezuela.

Types.—Cat. No. 8405. U.S.N.M., and in collection of the author. Belongs between *T. esmeralda* and *T. latifascia* Walker.

TRICHURA COARCTATA Drury.

Habitat.—Suapure, Venezuela.

TRICHURA AURIFERA Butler.

Habitat.—Suapure, Venezuela.

TRICHURA MATHINA Druce.

Habitat.—Suapure, Venezuela.

ÆTHRIA ANDROMACHA Fabricius.

The form taken has the extremity of abdomen crimson.

Habitat.—Suapure, Venezuela.

ÆTHRIA CARNICAUDA Butler.

Habitat.—Suapure, Venezuela.

ÆTHRIA LANGLEYI, new species.

Female.—Head and body black; sides of frons white; cheeks, patches on tegulae and shoulders, streaks on patagia, dorsal spots on mesothorax and metathorax, and spots on pectus golden green; fore coxae with silvery patches, and hind femora with white spots on tips; abdomen with the dorsal surface somewhat shot with brilliant blue, becoming obsolete toward tip; dorsal and moderately long lateral series of golden green spots inclosing patches of whitish scales; the terminal tufts and sides of preceding segment crimson, and the underside with short series of sublateral white patches; wings hyaline, the veins and margins black. Fore wing with the basal area black with golden green patch at base; a black discoidal bar conjoined to the costal fascia; the terminal band slightly expanded toward apex and at torus. Hind wing with the terminal band expanding to costa and into a short streak below vein 1.

Expanse.—30 mm.

Habitat.—Suapure, Venezuela.

Type.—Cat. No. 8420, U.S.N.M.

This species belongs in the same generic section as the former two, as indicated by the venation of the fore wing.

Named after Dr. S. P. Langley, Secretary of the Smithsonian Institution.

ÆTHRIA ELIZA, new species.

Male.—Head and body deep black; palpi with the base and streaks on front white; head with white streaks behind eyes; shoulders with spots, the lower part being white and the upper part metallic blue-green; patches on tegulae, stripes on patagia, dorsal patches on meso and metathorax, and patches on pectus metallic blue-green; patches on coxae and spots on tips of middle and hind femora white; abdomen above with the first three segments and patch on fourth segment brilliant blue; the first six segments with dorsal, and excepting first segment, lateral, and sublateral series of white spots, the sublateral spots being the largest; the second segment with sublateral metallic blue-green spots in front of the white spots, which on this and the next two segments are connected ventrally by a few white scales; the terminal tufts crimson; wings hyaline, the veins, and margins rather broadly deep black. Fore wing with the basal area black with metallic

blue-green patch at base; a discoidal deep black bar conjoined to the costal fascia; the terminal band slightly expanded toward apex and at tornus; underneath with subcostal short basal streak, and front half of basal patch metallic blue-green. Hind wing with base of cell brilliant blue, and a similar basal patch below it, the patches shortened toward front; the terminal band expanding widely toward apex and inclosing small hyaline spots above and below vein 6, and wide and somewhat dentate between veins 1 and 2; underneath with basal short metallic blue-green streak below costa; the basal patches black. The metallic blue-green markings change to blue or green, according to the direction of the light.

Expanse.—45–47 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8421, U.S.N.M., and in collection of the author.

As indicated by the venation of the fore wing, this species also belongs to the same generic section as the latter. Superficially it bears considerable resemblance to the species described by Druce under the name of *daltha*, a species belonging to a different generic section.

Of this splendid family this is the most beautiful species known to me, and I therefore name it after my mother.

ARGYRÆIDES CERES Druce.

Habitat.—Suapure, Venezuela.

It has been found advisable to place this species of *Argyraides* at the head of those taken, owing to the discovery of a species belonging to a new generic section.

ARGYRÆIDES AURANTICINCTA, new species.

Male.—Head, palpi, pectus, and legs orange; antennæ, tegulæ, and thorax above, black; antennæ with the basal joint orange in front; vertex with subdorsal black spots behind, and with or without black patch on front; edges of tegulæ, borders of patagia, and patch on metathorax orange; coxæ orange-yellow, and legs with black streaks; abdomen black above and orange-yellow below; the first dorsal segment with tuft at middle and some hair on sides and edge orange; the hind part of second dorsal segment and the front two-thirds of third dorsal segment naked (the exposed skin brownish yellow), the third and following dorsal segments with orange bands behind, the bands on third and seventh segments narrow; the terminal tufts crimson; wings yellow-hyaline, the veins black with yellowish splashes, and the margins narrowly black. Fore wing with basal orange spot, with or without crimson point; a long orange streak on edge of costa; a narrow discoidal black bar conjoined to the costal fascia, which is wider on outer half; the terminal band slightly expanded toward apex and below vein 2. Hind wing with the terminal band slightly expanded at apex, and the lobe on inner margin clothed with orange hair.

Expanse.—24 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8422, U.S.N.M., and in collection of the author.

The partial nakedness of the constricted dorsal segments seems to be a natural character which might easily escape notice or be attributed to accidental denudation, and likely does not occur outside of this genus, in which it seems limited to a few or possibly, though not likely, two species.

ARGYRÆIDES SUAPURENSIS, new species.

Male.—Head and body brown-black; palpi in front, edge, and sometimes lower part of frons, and spots fore and aft on basal joint of antennæ brownish white; lines behind eyes white; vertex with some grayish hair; tegulae and patagia with grayish or yellowish edges; shoulders and thorax with some grayish or yellowish hair; pectus with whitish patches; fore coxæ below, and patches on middle and hind coxæ whitish; hind tibiae fringed with rough hair on outer half of inner edge; abdomen with the back part of second dorsal segment, and the front half or two-thirds of third dorsal segment naked (the exposed skin brownish yellow); the third dorsal segment with or without (in types with) yellow on edge; the next four dorsal segments edged with yellow, but very narrowly on seventh segment; the third segment ventrally whitish behind, and the next four ventral segments with narrow yellow or whitish fringes; wings yellow hyaline, the veins brown-black with some yellowish splashes, and the margins very narrowly brown-black. Hind wing with the lobe on inner margin clothed with black hair.

Female.—The whitish patches on fore coxæ are absent.

Expanse.—23–26 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8423, U.S.N.M., and in collection of the author.

The partial nakedness of the constricted dorsal segments in this species is a constant and natural character discovered from a critical examination of quite a number of specimens, nearly all of which are in excellent condition. The underside of the third segment is normally more or less bared in front, the denudation most likely being caused by some action of the legs.

This species constitutes a new generic section on account of the hind tibiae being fringed.

DIPTILON HALTERATA Fabricius.

Habitat.—Suapure, Venezuela.

It is strange that this species, whose hind wings are of little if any use in its flight, should be taken so far north of its first-known habitat.

SYNTRICHURA VIRENS Butler var. REBA Druce.

Habitat.—Suapure, Venezuela.

EUMENOGASTER NOTABILIS Walker var. CAURENSIS, new variety.

Male.—Head, thorax, and legs brown-black; palpi in front, some hair on frons, streaks behind eyes, spots on basal joint of antennæ, patches on fore and hind coxæ, and on outer end of fore femoræ white; vertex and tegulæ with some yellowish hair; patagia with streak of yellow hair, and the inner edge and posterior part fringed with yellow and brown hair which are long behind; metathorax with similar long hair; hind tarsi yellow beneath; abdomen with the first three segments brown-black, and the others dark red becoming brown at extremity; the first segment with slight dorsal yellow tufts; subdorsal spots on front of second segment, and the front half of third dorsal segment silvery; the fourth dorsal segment with or without silvery line on front; the anterior two-thirds of third segment, and the front of fourth segment silvery beneath; wings yellowish hyaline, the veins and margins brown. Fore wing with very long scarlet subcostal streak; some yellow scales below base of cell; the area between discocellulars and apex clouded by being sparsely irrorated with black and crimson scales; the terminal band rather broad and slightly expanded toward apex. The veins on underside of both wings yellowish.

Expanse.—30–32 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8424, U.S.N.M., and in collection of the author.

This form is very much like *notabilis* Walker, and should be regarded as a variety of it as herein considered.

EUMENOGASTER HÆMACERA Hampson.

Habitat.—Suapure, Venezuela.

SESIURA SMARAGDINA Walker.

Habitat.—Suapure, Venezuela.

CHRYSOSTOLA MELLINA Herrick-Schäffer.

Habitat.—Suapure, Venezuela.

CHRYSOSTOLA ÆQUALIS Walker.

Habitat.—Suapure, Venezuela.

PSEUDARGYROEIDES, new genus.

Proboscis well developed; palpi upturned, not reaching vertex of head; antennæ bipectinate, with short branches, the shaft dilated at middle; tibæ with the spurs moderate, the fore and middle tibæ

fringed with rough hair; abdomen with the second and third segments constricted, the third segment quite narrow at middle. Fore wing with vein 2 from near middle of cell; 3 from well before angle; 4 from angle; 5 from above angle; 6 from below upper angle; 7, 8, 9, and 10, stalked; 11 from the cell near end. Hind wing with the cell long, the front part being the longer; vein 2 from long before angle; 3 from angle; 4 absent; 5 from well above angle; 6 from well below upper angle.

Type.—*P. caurensis*.

PSEUDARGYROEIDES CAURENSIS, new species.

Female.—Head and body brown-black; palpi with the tips orange in front; frons with lateral dark yellow spots; antennae with yellow point on front of basal joint; some hair on vertex, and streaks on neck dark yellow; streaks behind eyes metallic green; tegulae sprinkled with dark yellow scales; mesothorax with subdorsal dark yellow stripes; metathorax with patch of some metallic blue scales, and some brown and dark yellow hair; patagia fringed with dark yellow, the hind part with brown and dark yellow hair; pectus with large dark metallic blue fasciae and median yellowish patch; abdomen with dorsal point on front of first segment, and dorsal spot on front of second segment yellow; the first segment with a few dark yellow hair; the third segment beneath, and the front half above, yellowish, as are ventral fringes on the next three segments; the third, fourth, and fifth dorsal segments edged with dark yellow scales; wings yellow hyaline, the veins brown-black and yellowish above, yellowish below, and the margins narrowly brown-black. Fore wing with a discoidal bar; the terminal band expanded between vein 4 and apex; underneath with the discoidal bar yellowish. Hind wing with the terminal band expanded slightly at apex, and the lobe on inner margin clothed with black hair.

Expanse.—29 mm.

Habitat.—Suapure, Venezuela.

Type.—Cat. No. 8425, U.S.N.M.

This species bears a strong resemblance to *Argyrocydes suapurensis* E. A. Klages. The genus belongs next to *Chrysostola*.

EPANYCLES IMPERIALIS Walker.

Habitat.—Suapure, Venezuela.

ANDROCHARTA MEONES Stoll.

Habitat.—Ciudad Bolivar, Venezuela.

ANDROCHARTA DIVERSIPENNIS Walker var. **BRAZILIENSIS** Butler.

Habitat.—Suapure, Venezuela.

CERAMIDIA CAURENSIS, new species.

Male.—Brown-black shot with dark cupreous green; antennæ metallic blue above; patagia fringed behind with brown-black hair; four coxæ with white patches; abdomen with the first three ventral segments white. Fore wing underneath with the inner area white as far as covered normally by the hind wing. Hind wing above with the costal area and a streak on median nervure to end of cell white.

Males.

Expanse.—40–44 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8426, U.S.N.M., and in collection of the author.

In occasional specimens the metallic hue is dark blue-green.

Allied to *C. butleri* Möschler.

CERAMIDIA PHEMONOIDES Möschler.

Habitat.—Suapure, Venezuela.

AMYCLES ANTHRACINA Walker.

In two specimens the neck has prominent lateral crimson-tipped tufts, while the other examples have the tufts more or less obsolete and, with few exceptions, without a trace of crimson.

Habitat.—Suapure, Venezuela.

AMYCLES DOLOSA Walker.

Habitat.—Suapure, Venezuela.

ANTICHLORIS ERYPHIA Fabricius.

Habitat.—Suapure, Venezuela.

ANTICHLORIS QUARTZI, new species.

Male.—Head and body brown-black; palpi with some white on outer side; antennæ above, and patches on frons and vertex suffused with metallic blue; eyes with some white behind; patches on tegulae and shoulders metallic blue or blue-green slightly suffused with white; meso and metathorax with dorsal metallic-blue patches; patagia with metallic-blue or blue-green stripes and fringed with brown-black hair longer behind; legs suffused with metallic blue or blue-green; patches on fore coxæ and streaks on legs white; abdomen with dorsal and lateral metallic blue-green or cupreous-green stripes, and a slight suffusion between; the second segment with white lateral spots on front; the ventral surface with sublateral white stripes narrowing distally, the intermediate area suffused with metallic blue or blue-green; wings brown-black diffused above with metallic blue-green and below with metallic blue, the diffusion on upper surface appearing stronger on

the nervures. Fore wing with metallic blue or blue-green spot at base of subcostal nervure; underneath with the inner area silvery as far as covered normally by the hind wing. Hind wing with the costal area silvery as far as covered normally by the fore wing.

Female.—The patches on fore coxæ are reduced to spots and the legs without white streaks; the inner area on underside of fore wing, and the costal area on upper side of hind wing grayish brown.

Expanse.—38–42 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8427, U.S.N.M., and in collection of the author.

The metallic hues are subject to variation, a few specimens having the upperside of the wings diffused with dark cupreous green, and the underside, as well as the markings on head and body, shows a corresponding change.

This species bears a striking resemblance to *A. cryphia* Fabricius, but, as the hind wing has vein 2 given off from toward angle of cell while the discocellulars are as in *A. panacea* Druce, it constitutes a new generic section forming a connection between the sections of which the former and latter species are representative. The former species should be placed after *A. scuddleri* Butler.

Named after my neighbor, Mr. William B. Quartz.

SCIOPSYCHE AURANTICAUDA, new species.

Female.—Head, thorax, and legs black; abdomen with the first four segments above, and the first three below black; the underside of third segment with ventral patch and some scales along edge brownish white; the last ventral segment and anal tufts yellow; the other segments, and lateral spots on fourth dorsal segment orange; wings with the veins, and margins very narrowly, brown-black. Fore wing with the interspaces rather thinly clothed with brown-black scales. Hind wing semihyaline, the terminal and inner areas irregularly suffused with brown-black.

Expanse.—32 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8428, U.S.N.M., and in collection of the author.

While the venation in this species does not agree exactly with the genus *Sciopsyché*, yet the writer does not regard it as differing enough to warrant the founding of another new genus.

NAPATA VENEZUELENSIS, new species.

Male.—Brown-black; palpi in front, frons, and front of basal joint of antennæ white; head back of eyes with metallic blue stripes edged behind with white; some scales on vertex, patches on tegulæ, meso and metathorax, shoulders and pectus, the inner edge of patagia, and suffused streaks on legs metallic blue, the patches on shoulders with

some white below; coxæ, and streaks on underside of femoræ and fore tibiæ white. Abdomen with dorsal whitish line and lateral series of metallic spots blue at base and blue-green behind; the first six segments with broad ventral white stripe. Fore wing with a long narrow whitish streak on costal edge; a basal spot, and a short streak on base of vein 1 metallic blue; hyaline streaks in cell and below it to angle; ciliæ white at apex and, partly, at tornus. Hind wing with the ciliæ whitish toward tornus; the inner area white below.

Female.—Frons metallic blue; coxæ without white except at tips, the fore coxæ with metallic-blue patches; legs without white streaks; antennæ, shoulders, costal edge of fore wing, and inner area of underside of hind wing without white; abdomen with the ventral stripe present (as in types), or very rarely obsolete, the stripe clouded (usually slightly, as in types) by being irrorated with brown-black scales; palpi with or without (in types with) white on front and the white mixed with brown, the white usually (as in types) present as a small streak; the front of palpi also with or without (in types with) some metallic-blue scales toward outer end.

Expanse.—25-27 mm.

Habitat.—Ciudad Bolívar and Suapure, Venezuela.

Types.—Cat. No. 8429, U.S.N.M., and in collection of the author.

In rare instances the metallic markings are blue-green, but the metallic blue of ordinary specimens changes to blue-green in oblique light.

Allied to *N. terminalis* Walker and *N. leucotelus* Butler.

NAPATA QUADRIMACULATA Möschler.

Habitat.—Suapure, Venezuela.

IXYLASIA KELLERI, new species.

Male.—Head, thorax, and abdomen black; basal joint of palpi and points behind eyes white; spots on tegulæ, shoulders, and patagia, subdorsal points on mesothorax and dorsal point on hind margin of metathorax white and metallic blue; coxæ with white patches; abdomen with the tufts of hair brown and white; the dorsal surface with white and blue point on first segment, the terminal segment and band on preceding segment scarlet; underneath with short lateral series and longer sublateral series of white spots, the latter series followed by white-mixed dark orange patches on last two segments; wings hyaline, the veins and margins black. Fore wing with the base black, with two basal bluish-white points, a broad discoidal black bar conjoined to the costal fascia and extended and widened between veins 3 and 4, the terminal band expanding toward apex and widened below vein 2, the inner fascia rather broad and with a short metallic green streak on

basal half; underneath with a basal white and blue streak on costal fascia. Hind wing with a narrow discoidal black bar, the terminal band broad and irregular; underneath with a broad white and blue basal streak on costal fascia.

Female.—Head with the markings as in the male and with white patch on frons; tegulae, body, and wings without blue and white, or bluish-white markings; spots on shoulders, and dorsal spots fore and aft on thorax white; abdomen with dorsal and lateral white spots on first segment, the lateral and sublateral series absent, the terminal segment (excepting anterior subdorsal areas) and some scales on preceding dorsal segment scarlet. Fore wing without metallic green streak on inner fascia. The abdomen, of course, is without the basal tufts of long hair.

Expanse.—44-48 mm.

Habitat.—Suapure and the upper Caura, Venezuela.

Types.—Cat. No. 8430, U.S.N.M., and in collection of the author.

Allied to *I. trogonoides* Walker.

Named in memory of the late Prof. Edward Keller, of Pittsburgh, Pennsylvania, whose knowledge of music, philology, and botany, and familiarity with most branches of natural history made him most attractive.

CACOSTATIA UMBRATICOLA, new species.

Male.—Black, shot with brilliant blue; some scales on front of palpi, the frons, cheeks, small patches of scales on tegulae and shoulders, and some scales on patagia and thorax white; legs fuscous with coxae and stripes white; abdomen with subdorsal whitish stripes; a broad ventral stripe and sublateral lines white. Fore wing with patch of scales on base of vein 1, and a short streak in front of outer end of patch, white; a large triangular hyaline patch in and below cell and between veins 2 and 3, and an oblique band beyond the cell between veins 3 and 7. Hind wing hyaline, the veins, and a terminal band expanding at apex and tornus and extending on inner margin to near base, black, shot with brilliant blue; cilia partly white at tornus.

Expanse.—30-32 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8431, U.S.N.M., and in collection of the author.

Allied to *C. discalis* Walker.

CYANOPEPLA GLAUPOIDES Walker.

Habitat.—Suapure Mountains, Venezuela.

AGYRTA PORPHYRIA Stoll.

Habitat.—Suapure, Venezuela.

CORREBIDIA CALOPTERIDIA Butler.

Habitat.—Suapure, Venezuela.

HYALEUCEREA ERYTHROTELUS Walker.

Habitat.—Suapure, Venezuela.

HYALEUCEREA CHAPMANI, new species.

Male.—Head, body, and legs fuscous; abdomen with subdorsal series of large patches beginning on fourth segment, and lateral anal tufts scarlet; wings hyaline, the veins and margins rather widely fuscous. Fore wing with a discoidal fuscous patch conjoined to the costal fascia and extending below angle of cell; the terminal band wide on apical area and expanded at vein 1. Hind wing with the terminal band wide at apex and the inner fascia rather broad.

Expanse.—26 mm.

Habitat.—Suapure, Venezuela.

Types.—Cat. No. 8432, U.S.N.M., and in collection of the author. Belongs in the same generic section as the former species.

Named after Prof. Thomas J. Chapman,^a author of *The French in the Allegheny Valley*, *Old Pittsburgh Days*, etc.

While the species included in this paper are all day-fliers it is likely that nearly all of them possess some characteristic habits which, in a number of cases, the writer was able to discover, but in other instances could not, owing to the paucity of specimens or from being too difficult to ascertain with exactness. Although it has been impossible to record these observations in the present paper, yet, without the knowledge gained in the field, it would have been impossible definitely to determine the relationship of some of the forms herein listed.

^aProfessor Chapman died suddenly before this paper could be printed. A sketch of his life will be found in *The Chartiers Valley Mirror* of February 25, 1905, and in the current volume of *The Pennsylvania School Journal*.